



Meeting Consumers' Expectations For Quality And Safety of Pork Products

M. Terry Coffey
President
Murphy Farms LLC



Consumers'/Meat Industry Major Issues

- Environment
- Animal rights
- Food safety/Meat quality



Evolution of Production

- **Pig Producer** - diversified farming operation - *“pork production alternative market for grain”*
- **Meat Producer** - industrial model - *“efficient, least cost production of lean meat”*
- **Vertically Integrated Food Producer** - consumer driven - *“cost and quality controlled production of food made from pork”*

Dennis DiPietre, Reflections on
the role of knowledge in the 21st
century pork industry, 1998



Consumer Driven Focus?

Meat Producer

- Process management

Vertically Integrated Food Producer

- Product quality
- Social climate
- Environmental climate
- Customer responsiveness



Vertical Integration of the U.S. Swine Industry Trade

Smithfield Foods

Premium Standard Farms

Seaboard Farms

Cargill

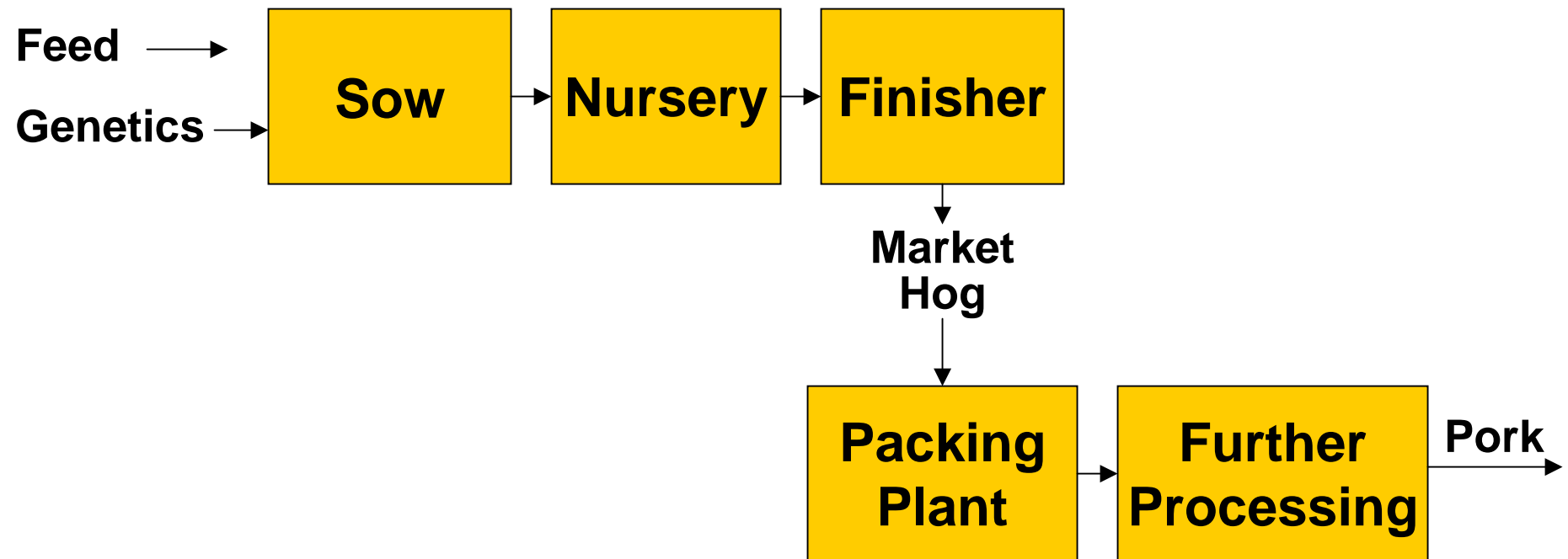
Farmland Industries

Clougherty Packing Company

- Total # sows \cong 1,800,000
- 30% of US industry



Integrated Production Process



Each component uses specialized feeding, housing, environmental control, health care, animal care, hygiene, and management systems.



Smithfield Foods Contract Production

| | Capacity, % |
|-----------|-------------|
| Sow | 50 |
| Nursery | 75 |
| Finishing | 75 |

Represents 1,300 independent family farms



Key Technologies and Capabilities

- **Genetics** Smithfield advantage
- **Nutrition** 60% - 70% of cost
- **Feed manufacturing** Nine mills, five states
- **Housing systems** Three-site production
- **Health management** Prevention, all-in/all-out



Key Technologies and Capabilities

- **Reproductive biology** Real-time ultrasound,
100% AI
- **Meat science/
Muscle biology** Food safety/meat quality
- **Environmental
management** ISO 14001
- **Integrated system
management** Data to monitor and
improve, tracking systems



Environment



Definition of an EMS

"The part of overall **management system** that includes organization structure, planning activities, responsibilities, practices, procedures, processes and resources **for** developing, implementing, achieving, reviewing and maintaining **the environmental policy**."

From the ISO 14001 Standard



What Does ISO 14001 Mean?

- International Organization for Standardization - a worldwide federation of national standards bodies. Based in Geneva, Switzerland.
- Certification/registration under ISO 14001 Standard is used by our organization to assure ourselves and others that an appropriate EMS is in place.

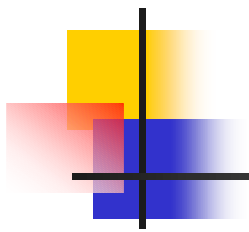


ISO 14001 Requirements

17 specific elements that must be met in accordance with the ISO 14001 Standard.

Conformance with these requirements and verification by an independent, accredited third party auditor is required in order to become "**ISO 14001 Certified**".





Smithfield Foods:

The first ag business to
achieve ISO 14001 status



Animal Welfare



Customer Confidence of Welfare Practices

- How does one build the trust and support of customers?
 - Loyalty
 - Confidence
 - Security
 - Integrity
- Audits - third party verification
 - USDA Process Verification, ISO, vendors
- Professional image & industry promotion



Smithfield Actions

- Smithfield customer feedback
- Murphy-Brown Animal Welfare Team
 - Corporate policy defined
 - Welfare criteria defined and monitored
- Tours and audits
- Training, training, training
- Update all production manuals



Animal Welfare Policy

The health and welfare of our animals are primary concerns for Murphy-Brown. In order to produce high-quality pork, the animals in our system will be housed in facilities designed to provide an environment consistent with their physiological needs for excellent health and productivity. We will provide constant supervision of our animals' welfare and provide high-quality feeds to meet all nutritional requirements. We will comply with all laws and regulations applicable to the animals' health and welfare and will strive to enhance our animals' well being and value.



Welfare Criteria

- Food and water
- Environment (shelter)
- Lighting
- Pens and stalls (space)
- Temperature control
- Air quality
- Training
- Transport
- Slaughter practices



Animal Welfare

- High productivity, few behavioral problems, and a lack of physiological stress response are possible in most systems if **stockmanship** was high and environment well managed.

McGlone et al., 1999

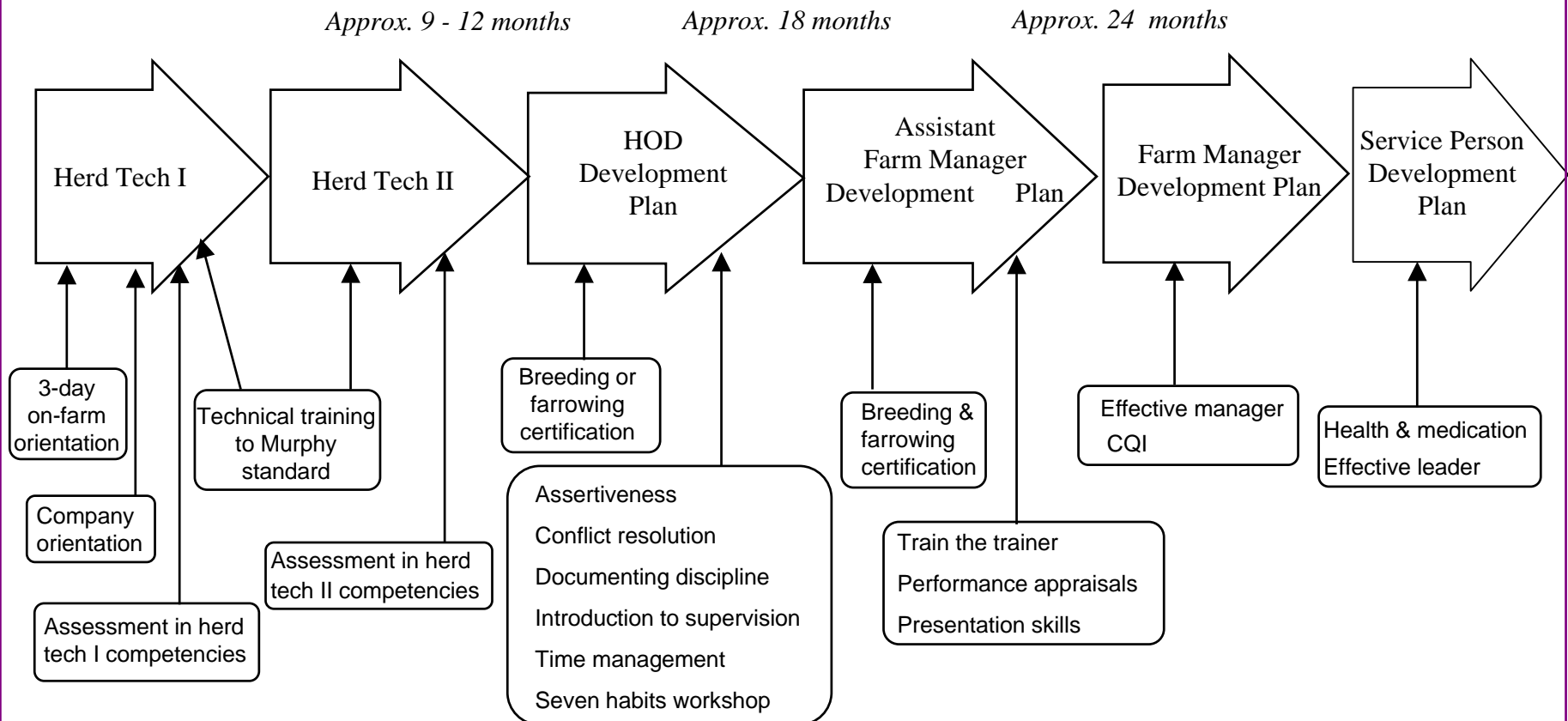


Efforts to Improve Stockmanship on Farms

- Incorporate stockmanship and animal welfare topics into all classroom training sessions
- Group of farms conducting a research trial to improve interaction between employees and animals
- All new employees view animal handling video at sign-up

CAREER PATH DEVELOPMENT-SOW FARM EMPLOYEE

Production Manager Trainee Development Program





Food Safety/Meat Quality



What Is Quality?

- Food safety - absolutely
- Consumer defined/multiple choices
 - Color - white meat or red meat?
 - Marbling - heart healthy or flavor?
 - Fat quality - saturated or unsaturated?
 - Fat color - pure white or yellow tint?
 - Drip loss - pumped or natural?



To Deliver Quality and Uniformity Integrated Systems Standardize:

- Genetics
- Nutrition
- Product handling



Food Safety - Residue Avoidance/Antibiotic Use

- Certification of management practices through NPPC pork quality assurance
- Adhere to FDA's Animal Medicinal Drug Usage Clarification Act requirements
- Feed manufacturing
 - No sulfa products
 - No routine administration of antibiotics used in human medicine to healthy animals



Meat Quality - Product Handling

- Define standards and certify processes
 - Loading
 - Transportation - procurement radius
 - Unloading
 - Cooling
 - Resting
 - Stunning
 - Quick chill

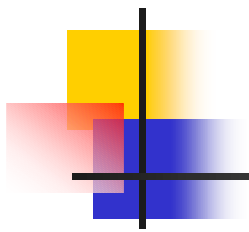


Summary



Attributes of Robust Systems

- Leadership - driven and passionate
- Industries best people
- Realistic - recognize problems
- Singular obsession to be world's best
- A culture of discipline
- Technology accelerators
- Steady, focused progress



Vertically integrated systems
are best suited to deliver these
attributes across the pork chain.



Smithfield Foods Advantages

- Through our vertical integration model, we are able to do the following:
 - Deliver the safety, quality, and consistency demanded by today's consumer while maintaining the highest level of animal welfare available today



Smithfield Foods Advantages

- Utilize feedback links to focus on continuous system and product improvements
- Supply a significant portion of the pork produced in the U.S.
(12 million of 100 million animals annually)